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ABSTRACT

Of general interest in this study comparing two cottage-home art therapy groups was the question of whether or not a token reward system would increase children's cooperative behaviors and art production. Participants in the study were residents at a treatment facility for abused children. Cottages differed in the responsiveness of residents to the art therapy setting and in the extent to which punishment was used generally to control the children. In the course of conducting art therapy sessions, the therapist established a token economy to manage children's behavior in a positive way. To assess the effectiveness of the reward system, several categories of observational data were collected over a period of 20 weeks. Data included records of token rewards given and art products made. Generally, results indicated that while the reward system worked well in both groups, it was more effective in the reward-oriented cottage than in the cottage in which punishment was more likely to occur. (RH)

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THE EFFICACY OF REWARD VS. PUNISHMENT: A COMPARISON OF TWO COTTAGE UNITS

by: Cari Rondeau

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THE EFFICACY OF REWARD VS. PUNISHMENT: A COMPARISON OF TWO COTTAGE UNITS

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INTRODUCTION

Much of daily life is involved with our personal pursuit of fulfilling and rewarding experiences while we consciously and unconsciously avoid that which causes us distress. There has been much social research concerning reward and punishment systems and their affect on human behavior. Social Exchange theorists look at human behavior in terms of reward-seeking and pain-avoidance (Nixon, 1979, p. 32).

Those working with children in group settings have often used the method of operant conditioning, which Kazdin defines as "A type of learning in which behaviors are altered permanently by regulating

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*This is one of a series of CHILDHELP Research Division monographs produced by interns at The Village of Childhelp, U.S.A. Cari Rondeau was a student in Sociology at the University of California at Riverside and an art therapy intern at The Village. She prepared this report under the direction of Professor Jane Mercer, Ph.D. and the supervision of Betty Voss, M.A., A.T.R., Director of the CHILDHELP Art Therapy Department. This version, edited by John Meier, Ph.D. is reproduced with permission from the author for distribution to CHILDHELP constituents, February, 1983, Beaumont, California.

the consequences which follow them" (Kazdin, 1975, p. 256). One method of operant conditioning is a token reward system whereby the good behaviors are rewarded with tokens and praise while the "inappropriate behaviors" which caused the child to be placed in the institution are ignored (Deibert, Harmon, 1973, p. 61). Some child care agencies have used a Token Economy which Kazdin defines as "A reinforcement system where tokens are earned for a variety of back-up reinforcers". A Token Economy represents a system analogous to a national economy where money serves as a medium of exchange and can be earned and spent in several ways (Kazdin, 1975, p. 260). It has been found that when the reward is given immediately as the behavior occurs it is more effective than waiting until later. The token is a tangible, immediate reward which may later be exchanged for a back-up reward (Phares, 1979, p. 399).

The token system can combine with or evolve into a method of "social rewards" such as praise and attention. In using social rewards it is important to use statements such as, "Johnny is sitting quietly", rather than value judgements such as, "I love you when you sit quietly" (Deibert, Harmon, 1973, p. 78).

The heart of the reward system is to reward the good behaviors while ignoring the bad behaviors. Too much attention to bad behavior may have a reinforcing effect as in the case of the parent who says, "I've disciplined the child severely and he still refused to mind, in fact he appears to get worse" (Deibert, Harmon, 1973, p. 61).

The pain-avoidance aspect of the Social Exchange Theory can lead to a punishment system of

operant conditioning which literature shows can be effective but which carries potential problems. Kazdin feels that negative reinforcement can be used effectively where positive reinforcement has failed or is difficult to use; but, he warns:

> Use of punishment can lead to side effects which may be undesirable, such as emotional reactions, escape from the situation or from the person who administers the punishment, aggression, the use of punishment by the individual who is punished, and over-reliance upon aversive control procedures...the possibility of adverse side effects make extensive reliance upon adverse procedures somewhat hazardous (Kazdin, 1975, p. 171).

One punishment method used for children is to remove the misbehaving child from whatever positive activity is going on. The use of this "time out" procedure has the possible negative results of giving the child less opportunity to earn positive reinforcements such as tokens or praise as well as less chance for development of social skills (Kazdin, 1975, p. 155). In one instance, "time out" was used for a woman in an institution who had a habit of loud screaming. A fifteen minute "time out" was a failure until it was coupled with a method of "over correction" whereby she was directed to make apologies to all staff and patients after each incident (Kazdin, 1975, p. 153).

Research shows that reprimands used as punishment can increase bad behavior. In one study a command of "sit down" was found to increase out of seat behavior. Threats have been found to be ineffective unless they are followed by the threatened action. Caution should be used with reprimands and threats of punishment because these methods can reinforce bad behavior (Kazdin, 1975, p. 148).

RESEARCH DESIGN

In a field study at a residential home for abused children, The Village of Childhelp, U.S.A. (The Village) many interesting observations were made concerning reward and punishment systems of contingency management. In this study, two cottage groups were studied in order to test the hypothesis that a reward system is generally more effective in eliciting child cooperation and production than a punishment system.

Much of the observational data collected over a 20 week field study supports the preceding research data on operant conditioning and adds to the body of sociological information on the reward and punishment methods of contingency management. Of general interest in this study, comparing two cottage-home art therapy groups, was whether the reward system would in fact increase cooperative behaviors and art production in the groups at The Village.

GROUPS STUDIED

In describing the populations studied and compared in this field observation, there are some similarities and differences to be noted concerning the two groups of children. See Table 1 for data describing the two cottage groups. Since one group seemed to be more "difficult" than the other for this investigator to work with it was decided to find out what factors were taken into consideration when assigning children to the various cottage units (groups of about ten children with several house parents and caregivers). In an interview with The Village's Social Services Director, it was determined that there are several factors taken

into consideration in the placement of a child into a particular cottage unit at The Village. The decision is made by a group of staff members who make the placements based on the sex, age, known behavior problems and the nature of the child's abuse. Also, the decision is based on a practical consideration: which cottage has room for another child.

In the past two years Cottage Y had a reputation for having a good, well-trained staff that was able to handle the stress of some of the more difficult and aggressive boys at The Village. This investigator was told that recently there have been several staff changes as well as an attempt to integrate more girls and less aggressive children into the cottage. After a period of observation, it became apparent that, while Cottage Y did have some aggressive and difficult children, so did Cottage Z.

HYPOTHESIS

This study was designed to study the hypothesis that the reward system of operant conditioning is generally more effective in eliciting child cooperation and production than a punishment system.

Using Junker's Field Work this study was conceived for two Cottage Art Therapy groups based on the principles he outlines. He feels that field work is: "observation of people in situ, finding them where they are, staying with them in some role which, while acceptable to them, will allow both intimate observation of certain parts of their behavior, and reporting it in ways useful to social science but not harmful to those observed" (Junker, 1960, p. iii). This investigator's role was that of "participant as observer" (Junker, p. 36) since the purposes of the observation were never explained

to the groups of children or their caregivers. They saw this investigator's main role as that of art therapist conducting the groups and, although careful records were kept of observations, it was done in a manner that was not obvious. Field notes were typed shortly after each group session, using tape recordings of impressions of the group and tapes of parts of the sessions. Art work for each session was dated and kept in files for later assessment and comparison. Care was taken to use the same themes, assignments, directions, supplies and reinforcements for each group.

Besides attendance and group size, records of the following items were kept: token rewards given, art products made, dyads in art projects, children working on group posters, "significant work" produced, children who joined in sharing circle and talked into the tape recorder, children engaging in aggressive behavior, caregiver interactions (positive and negative), and personal ratings of the group (positive and negative). The following definitions help to clarify and operationalize the observations that were made in these groups. "Dyads" were any two children or caregiver-and-child twosome working together on an art project. "Posters" were large sheets of paper on which a group of children worked together. "Significant work" was defined to be an art product which in its form and execution expresses the child's feelings shows growth, problem-solving process, or reveals the child's inner nature in some symbolic way. "Aggressive behavior" was revealed by any obvious physical attempt to harm another or other extremely disruptive behavior. The caregiver interaction ratings of "positive" were any participation which added to the group cohesiveness and was generally helpful to a child or the group. "Negative" caregiver ratings were for those actions which were

disruptive to group process and tended to be control and punishment oriented. In the personal group rating, a "positive" rating indicated that this investigator's general impressions of group productivity and interactions were good while a "negative" rating meant that this investigator had experienced conflict, frustration or "burnout" feelings during the session.

Poker chips were used for the reward system. One chip was given for each art product made. The trading eventually evolved into a little "store" with edible "treats" (candy - later changed to raisins and nuts) and several toy items. Caregivers and children took turns tending "store". In the last few weeks of the study the children were told that tokens would be given for cooperative behaviors such as sharing in the circle, listening, cooperating, and talking into the tape recorder. Toward the end of the study the giving of tokens for art products was phased out and it was announced that an art show would be held later.

FINDINGS

The findings concerning reward and punishment systems are reported in two ways: (1) general impressions implicit from observations with specific examples from the sessions; and, (2) explicit findings from records kept on the recorded items mentioned above.

There are many instances in the cottage group study which added to a general impression that a punishment control system takes more leader energy and is less effective in changing behavior than a reward system of rewarding the good and ignoring the bad behaviors. One day after a particularly

chaotic and difficult group session in Cottage Y, the Cottage supervisor was asked for suggestions on how to conduct the group. He strongly recommended that this investigator assert more control over the group. He said that the kids needed more control which seemed to be true. The group was not able to handle the permissive style which the investigator believed would be helpful for an Art Therapy group.

Since this investigator's philosophy for managing the groups was to reward the good behaviors and ignore the bad behaviors, there were some difficulties as the Cottage workers interacted with the children during the art sessions. Once when this investigator was called to the phone during the Cottage Y group, a caregiver caught a child writing an obscene word on his paper. The caregiver took the child's tokens away and sent him to his room. Later the caregiver seemed in a dilemma about the situation and asked this investigator what to do about the situation. After explaining the reward philosophy to the caregiver, he stated that it was a different way of thinking about things. Control and punishment were strongly rooted in this Cottage.

In comparing Cottage Y with Cottage Z, it was observed that Cottage Z had children who were leaders in a positive manner in the art activities while Cottage Y had children who would lead the group into aggression, negative verbalization and in generally counterproductive behaviors. It was very difficult to call the Cottage Y children into a circle for sharing while in Cottage Z it was much easier. The reward system facilitated this activity but there was still a noteworthy difference between child behavior in Cottages Y and Z.

During one sharing session in Y, a caregiver joined the circle and began to criticize one boy. He seemed very impatient and said to this investigator, "He's playing games with you". The boy had been talking into the tape recorder and was enjoying being "on" for a while. The caregiver seemed to feel the need to control what was being said. Later, at the end of the hour, this investigator asked a girl to be in charge of the "store" where the children bought their edible reinforcers with tokens. The child took charge and had each child sit on a stool while waiting for a turn. She showed pleasure and responsibility as she did this task. The caregiver said to her, "You are not in control of the situation".

In these and many other examples in Cottage Y it appeared that more energy was being spent on caregiver-child conflict than was necessary. There seemed to be a fear on the part of the caregivers that the children would get by with something It is respectfully submitted that caregiver-child conflict could be reduced with a reward system and that child cooperation could be increased significantly with much less energy than is expended on the present punishment system. The more this investigator used the reward system the more were positive results obtained.

During one session with Cottage Y, when the group was called together for the sharing circle, it looked like it would not be possible to establish enough order for sharing. Georgie* was yelling and all the kids were doing their own thing. This investigator noticed Joey* sitting quietly. He said, "I'm sitting quietly". This investigator said loudly, "Joey is being quiet" and tossed him a poker chip so that everyone could see. Suddenly the group sat down in a circle and was quiet.

Each child was given a token. A couple of times when the noise level got high, the children were told, "Listening is worth a token". Each child took a turn talking into the tape recorder. This was the first time it was possible to successfully use the tape recorder in group Y. This example showed that the group had the ability to control behavior with the proper incentives.

The reward system worked well with difficult and aggressive children from Cottage Z. Jerry* is a very aggressive child. One day he decided to scribble over a lot of very fine art work other children in Cottage Z had done on a poster. The destructive behavior was permitted and at the same time the other children were allowed to express strongly their feelings to Jerry. The following week Jerry wanted to talk into the tape recorder first in the sharing circle. His art work that day showed the most careful work he had ever done. He enjoyed working in dyad with a caregiver. He wanted to work on the poster first also. This was a big improvement over the last week's aggressive and destructive behavior.

Janie* is a child who has difficulty interacting in the group. In one Cottage Z session she didn't do any art, only scribbled a paper and threw it on the floor. She chose to stay outside the sharing circle, crumpling some of the pictures others had done. Some of the pictures were removed from her but she held on tightly to one so this investigator decided to ignore her. She seemed to be trying to get attention by disrupting the group, which was also ignored. Finally she came up to this investigator and said, "You don't want me to share". She was assured that she was wanted and it was suggested that she sit in the circle. She did

*Children's names changed to protect anonymity.

not do it immediately but soon she sat down. After a while she wanted to share a cutout lion she had made in school. She received a token reward.

CONCLUSIONS

The more explicit findings from this study are found in Table II. In making comparisons and interpretations of the most significant data, it seems noteworthy that the higher attendance in Cottage Z implied a greater cooperation and enthusiasm with the group. The Z group was more positive and therefore seemed able to enjoy the Art Therapy sessions more than the Y group. Also, while the behavior modification system worked well in both cottages, it succeeded even better in the Z group because of a higher level of rewards which in turn elicited more cooperation and group cohesiveness than in the Y group. The Z group was better able to follow directions and complete the tasks assigned in the sessions. The sharing circle was much easier to organize in Z than in Y.

One divergent finding was regarding the dyads. More dyads were completed in Y than Z. This could be a result of there being less work on posters in Y than Z. While Z spent more time on the poster activity, which required greater cooperation of the whole group, Y was able to spend the extra time in dyad pairs. Z was able to deal with the difficulties involved in the group poster work while Y was rarely able to handle the conflict which would inevitably arise in this cooperative project.

The Z group shows only a slight edge in significant work. The children in Y are probably as creative as the children in Z but, because they

are used to a punishment consequence of control, they are less inner-controlled than Z and were often spending "time out" for punishment in their bedrooms. Y's high aggression level may be positively related to its high negative caregiver rating; it was not clear which preceded which, but some self-fulfilling prophecy may have been occurring. Conversely Z's lower aggression level is paired with a higher positive caregiver rating. Not surprisingly, these tendencies also agree with this investigator's personal group ratings.

The behavior modification system, while effective in both Cottages in increasing art productivity, was more effective in the more reward-oriented Cottage Z than in the more punishment-oriented Cottage Y. It also seemed clear that the reward-oriented approach used in Cottage Z for this study was in direct conflict with the more widely practiced punishment-oriented approach being used in Cottage Y and being used generally in the cottages for behavioral management. Further observations seemed to confirm that more caregiver energy was being spent in the punishment emphasis of Cottage Y with less satisfactory results in extinguishing aggressive and negative behaviors than in Cottage Z where positive rewards were emphasized, at least for this study.

The observations confirmed the investigator's (participant-observer's) hypothesis that the reward orientation of operant conditioning is generally more effective in eliciting child cooperation and productivity than a punishment orientation. This pilot study also strongly suggests that, by using techniques of operant conditioning which reward desirable and ignore undesirable behaviors, it is possible to reduce aggressive behaviors, to

improve group cooperation and cohesion, and probably to reduce counselor burnout. This is especially important for child caregivers who are working with abused children in out-of-home settings since abused children have already suffered so much physical punishment and mental/emotional anguish in the past (Meier, 1983).

Of course, future research projects with larger numbers of subjects, better matches between "control" and "experimental" subjects, and a generally tighter control of other variables is indicated. Nevertheless, this study does offer support for the notion that catching children being good and rewarding it is more efficacious in group management than catching them being bad or problematic in order to mete out their punishment.

TABLE I

COMPARISON OF GROUPS - COTTAGE Y AND Z

COTTAGE	NUMBER CHILDREN ATTENDING ART GROUPS	AGE RANGE	MEDIAN AGE	SEX RATIO
Y	8	6-10	7.5	1 female/7 males
Z	9	4-10	7.6	3 female/6 male

TABLE II: COMPARISON OF COTTAGES Y AND Z

	COTTAGE Y		COTTAGE Z	
Category for Comparison	Total for Each Session*	Average for Each Session**	Total for Each Session	Average for Each Session
Number of Children	4-8	6.7	7-9	8.3
Rewards Given	225	3.75	288	3.84
Art Products	184	3.07	239	3.19
Dyads	18	.30	20	.27
Posters	6	.10	38	.51
Significant Work	67	1.12	86	1.15
Sharing Circle	13	.22	27	.36
Aggressive Behavior	39	.65	29	.39
	Positive	Negative	Positive	Negative
Caregiver Interactions	7	23	10	3
Investigator Impressions	4	5	9	0

*The figures are close estimates drawn from the investigator's daily tally sheets; in such a field study it is impossible for one investigator to gather a precise sample of many kinds of data simultaneously. These data were gathered in 9 sessions during the 20 week study completed in 1982. Averages are not simple arithmetic means.

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